What is claimed is:

1. A method for adjusting the yield and purity of a proteinase inhibitor isolated from tissue of a plant, comprising the steps of:

(a) extracting the protease inhibitor and other protein products from the plant tissue by preparing a mixture of solvent and comminuted plant tissue to form a solid fraction and a liquid fraction comprising the protease inhibitor and other protein products;

(b) heating the liquid fraction to a temperature and for a time period sufficient to denature at least some of the other protein products without substantially denaturing the protease inhibitor;

(c) adjusting the temperature and time period of the heat treatment step to selectively affect the purity and yield of the protease inhibitor; and

(d) removing the denatured protein products to prepare a clarified extract solution.

2. The method of claim 1 wherein the solvent comprises formic acid and sodium chloride.

3. The method of claim 2 wherein the solvent comprises about 0.5% to about 2.5 % formic acid and 0 to 3.0 N sodium chloride.

4. The method of claim 1 wherein heat treating the filtrate is conducted at between about 60° to about 90° C.

5. The method of claim 4 wherein heat treating the filtrate is conducted for between about 30 to about 180 minutes.

6. The method of claim 4 wherein purity of the protease inhibitor is increased by selecting a temperature greater than about 75° C.

7. The method of claim 4 wherein yield of the protease inhibitor is increased by selecting a temperature less than about 75° C.

8. The method of claim 1 wherein as the temperature of the heat treatment step is increased, the duration of the heat treatment step is decreased.

9. The method of claim 1 wherein as the temperature of the heat treatment step is decreased, the duration of the heat treatment step is increased.

10. The method of claim 1 wherein the step of removing the denatured proteins is carried out by centrifugation.

11. The method of claim 1, further comprising filtering the clarified extract to remove protein impurities having a molecular weight below that of the proteinase inhibitor.

12. The method of claim 11 wherein filtration is conducted on an open, screen-channel membrane having a molecular weight cut-off rating of about 5 KD to about 10 KD.

13. The method of claim 1 wherein a buffer solution comprising an aqueous solution of ammonium bicarbonate is added to the clarified extract prior to filtration.

14. The method of claim 13 wherein the buffer is between about 50 and about 500 mM ammonium bicarbonate.

15. The method of claim 11 wherein the retentate solution is concentrated to less than one-fifth of the starting volume during filtration.

16. The method of claim 15 wherein the filtration step further comprises washing with up to ten volumes of filtration buffer.